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# Overview of the Economic Information for Investment Analysis



# Overview

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- Purpose
- Sources of Data
- Data Included in Package
- Conclusion

# Purpose

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This document was created to provide Investment Analysis teams with current economic information to be used in their analyses.

Allows for consistent economic analyses for all decisions

# Sources of Data

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- Numerous sources of data
- APO provides much of the information
  - Policy values (e.g., Passenger value of time)
  - Collects information from airlines and provides summarized costs (e.g., ADOC)
- OMB provides discount and Inflation rates
- OPM supplies salary information

# Data Included in Package

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- Value of Life
- Passenger Value of Time
- Airline Information
  - Airline Direct Operating Costs
  - Utilization & Capacity factors
  - Aircraft Replacement & Restoration Costs
- Compensation (Federal & Contractor)
- Inflation & Discount Rates

# Conclusion

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- Supplied package contains the current economic information being used in Investment Analyses
- Provides high level costs for preliminary analyses
- Provides guidance to more detailed data
- Allows for consistent economic analyses across agencies

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# Data Package



*Data Updated: 04/29/02*

# Purpose

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This document was created to provide Investment Analysis teams with current economic information to be used in their analyses.



# Sources of Economic Information

Economic Values	Update Freq.	Data Source	Website	Page Number
Values for Lost Life	Occasionally	DOT, (Economic Values FAA-APO)	<i>Treatment of Value of Life and Injury in Economic Analyses</i> , APO-02-1, February 2002	pg. 1
Values for Injuries	Occasionally	DOT, (Economic Values FAA-APO)	<i>Treatment of Value of Life and Injury in Economic Analyses</i> , APO-02-1, February 2002	pg. 1
Passenger Value of Time	Occasionally	DOT, (Economic Values FAA-APO)	Updated Executive Summary provide by APO	pg. 2
Aircraft Direct Operating Costs	Annually		Updated Executive Summary provide by APO	pg. 4
Aircraft Utilization & Capacity	Occasionally	DOT, (Economic Values FAA-APO)	Updated Executive Summary provide by APO	pg. 3
Aircraft Replacement & Restoration Values	Occasionally	DOT, (Economic Values FAA-APO)	Updated Executive Summary provide by APO	pg. 4-5
<b>Salary Information</b> GS Schedule FAA General AT - Controllers Airways facilities Contractor	Annually Annually Annually Annually Occasionally	OPM FAA-AHP200 FAA FAA Bureau of Labor Statistics, General Services Administration	<a href="http://www.opm.gov/oca/PAYRATES/index.htm">http://www.opm.gov/oca/PAYRATES/index.htm</a> (select year) <a href="http://www.faa.gov/corecomp/pay_bands.cfm">http://www.faa.gov/corecomp/pay_bands.cfm</a> <a href="http://atpay.faa.gov/">http://atpay.faa.gov/</a> (Select documents and relevant pay band) <a href="http://www.faa.gov/ats/ans/index.htm">http://www.faa.gov/ats/ans/index.htm</a> <a href="http://www.bls.gov/oco">http://www.bls.gov/oco</a> , <a href="http://www.modtechcorp.com/gsa/Corporate%20GSA%20Schedule.pdf">http://www.modtechcorp.com/gsa/Corporate%20GSA%20Schedule.pdf</a> , <a href="http://www.mcric.com/gsa/gsa_rate.htm">http://www.mcric.com/gsa/gsa_rate.htm</a>	
Inflation Rates – Historical Inflation Rates - Projected	Annually, updates are available Quarterly	Bureau of Econ. Analysis OMB Budget	<a href="http://www.bea.doc.gov/bea/dn/nipaweb/SelectedTables.asp?Selected=Y">http://www.bea.doc.gov/bea/dn/nipaweb/SelectedTables.asp?Selected=Y</a> (select Table 7.1) GDP price Index Source FY2002 Budget Mid Session Review	
OMB Discount Rate for CBA OMB DR for Cost Effectiveness	Annually Annually	OMB Circular A-94 OMB Circular A-94	<a href="http://www.whitehouse.gov/omb/circulars/a094/a094.html">http://www.whitehouse.gov/omb/circulars/a094/a094.html</a> <a href="http://www.whitehouse.gov/omb/circulars/a094/a094.html">http://www.whitehouse.gov/omb/circulars/a094/a094.html</a>	pg. 21-22 pg. 8-9

# Values of Lost Life & Injuries

## NTSB Injury Classifications

AIS Code	Injury Severity Level	Avoided Cost of Injury	Selected Injuries
AIS 1	Minor	\$6,000	Superficial abrasion or laceration of skin; digit sprain; first-degree burn; head trauma with headache or dizziness (no other neurological signs)
AIS 2	Moderate	\$46,500	Major abrasion or laceration of skin; cerebral concussion (unconscious less than 15 minutes); finger or toe crush/amputation; closed pelvic fracture with or without dislocation
AIS 3	Serious	\$172,500	Major nerve laceration; multiple rib fracture (but without flail chest); abdominal organ contusion; hand, foot, or arm crush/amputation
AIS 4	Severe	\$562,500	Spleen rupture; leg crush; chest-wall perforation; cerebral concussion with other neurological signs (unconscious less than 24 hours)
AIS 5	Critical	\$2,287,500	Spinal cord injury (with cord transection); extensive second- or third-degree burns; cerebral concussion with severe neurological signs (unconscious more than 24 hours)
AIS 6	Fatal	\$3,000,000	Fatalities and injuries which although not fatal within the first 30 days after an accident, ultimately result in death

### ICAO Injury Classifications

Minor            \$42,900            Serious            \$580,700

Source: *Treatment of Value of Life and Injury in Economic Analyses*, APO-02-1, February 2002

# Passenger Value of Time

Category	Recommended Value per Hour	<u>Sensitivity Range</u>	
		Low	High
<u>Air Carrier:</u>			
Personal	\$19.50	\$16.70	\$25.00
Business	\$34.50	\$27.60	\$41.40
All Purposes	\$26.70	\$21.90	\$32.90
<u>General Aviation:</u>			
Personal	\$26.30	(No Recommendation)	
Business	\$37.50		
All Purposes	\$31.10		

Source: *Economic Values for Evaluation of FAA Investment and Regulatory Programs*  
Updated Executive Summary April 2002 – Supplied by APO

# Aircraft Direct Operating Costs

## Operating Costs/Hour in 2001 Dollars

	<b>Variable Operating Cost per Hour<sup>1</sup></b>	<b>Fixed Costs per Hour<sup>2</sup></b>	<b>Grand Total</b>
<b>Scheduled Commercial Service</b>	\$ 2,601	\$ 684	\$ 3,285
<b>Air Carrier w/o Commuter</b>	\$ 3,043	\$ 771	\$ 3,814
<b>Commuters Only</b>	\$ 608	\$ 292	\$ 900
<b>Air Taxi</b>	\$ 451	\$ 387	\$ 838
<b>General Aviation Only</b>	\$ 199	\$ 409	\$ 608
<b>General Aviation &amp; Air Taxi</b>	\$ 322	\$ 407	\$ 729
<b>Military</b>	\$ 1,687	N/A	\$ 1,687

Source: *Economic Values for Evaluation of FAA Investment and Regulatory Programs*

*Updated Executive Summary April 2002 – Supplied by APO*

<sup>1</sup> Variable Costs: Fuel & Oil, Crew, Variable Maintenance

<sup>2</sup> Fixed Costs: Rentals, Depreciation, Insurance

# Aircraft Utilization & Capacity Factors

	<b>Passenger Capacity</b>	<b>Crew Size</b>	<b>Cargo Capacity</b>	<b>Passenger Load Factor</b>	<b>Cargo Load Factor</b>	<b>Daily Utilization</b>	<b>Average Flight Speed</b>	<b>Useful Load</b>
Scheduled Commercial Service	151.9 seats	6	11.6 tons	69.1%	44.6%	6.9 hours	417 mph	#N/A
Air Carriers w/o Commuters	158.9 seats	6.1	12.2 tons	69.1%	44.6%	7.4 hours	439 mph	#N/A
Commuters Only	41.7 seats	3	1.6 tons	57.9%	33.1%	4.5 hours	232 mph	#N/A
Air Taxi	6.6 seats	#N/A	#N/A	44.4%	#N/A	#N/A	#N/A	3,097 lbs.
General Aviation Only	5.4 seats	#N/A	#N/A	49.5%	#N/A	#N/A	#N/A	1,894 lbs.
General Aviation and Air Taxi	5.5 seats	#N/A	#N/A	49.0%	#N/A	#N/A	#N/A	1,969 lbs.

Source: *Economic Values for Evaluation of FAA Investment and Regulatory Programs*  
Updated Executive Summary April 2002 – Supplied by APO

# Aircraft Replacement & Restoration Values

	<b>Replacement Costs of Destroyed Aircraft</b>	<b>Restoration Costs of Damaged Aircraft</b>
2002 Dollars (\$M)		
<b>Scheduled Commercial Service</b>	\$18.6	\$2.52
<b>Air Carriers w/o Commuters</b>	\$22.3	\$3.00
<b>Commuters Only</b>	\$4.28	\$0.57
<b>Air Taxi</b>	\$0.76	\$0.16
<b>General Aviation Only</b>	\$0.61	\$0.15
<b>General Aviation and Air Taxi</b>	\$0.60	\$0.15
<b>Military</b>	\$24.7	\$3.33

*Source: Economic Values for Evaluation of FAA Investment and Regulatory Programs  
Updated Executive Summary April 2002 – Supplied by APO*

# Compensation Values

## Federal Pay Schedule (Without Locality)

Grade	Annual Rates for Steps (in dollars)									
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
<b>GS-1</b>	14,757	15,249	15,740	16,228	16,720	17,009	17,492	17,981	18,001	18,456
<b>GS-2</b>	16,592	16,985	17,535	18,001	18,201	18,736	19,271	19,806	20,341	20,876
<b>GS-3</b>	18,103	18,706	19,309	19,912	20,515	21,118	21,721	22,324	22,927	23,530
<b>GS-4</b>	20,322	20,999	21,676	22,353	23,030	23,707	24,384	25,061	25,738	26,415
<b>GS-5</b>	22,737	23,495	24,253	25,011	25,769	26,527	27,285	28,043	28,801	29,559
<b>GS-6</b>	25,344	26,189	27,034	27,879	28,724	29,569	30,414	31,259	32,104	32,949
<b>GS-7</b>	28,164	29,103	30,042	30,981	31,920	32,859	33,798	34,737	35,676	36,615
<b>GS-8</b>	31,191	32,231	33,271	34,311	35,351	36,391	37,431	38,471	39,511	40,551
<b>GS-9</b>	34,451	35,599	36,747	37,895	39,043	40,191	41,339	42,487	43,635	44,783
<b>GS-10</b>	37,939	39,204	40,469	41,734	42,999	44,264	45,529	46,794	48,059	49,324
<b>GS-11</b>	41,684	43,073	44,462	45,851	47,240	48,629	50,018	51,407	52,796	54,185
<b>GS-12</b>	49,959	51,624	53,289	54,954	56,619	58,284	59,949	61,614	63,279	64,944
<b>GS-13</b>	59,409	61,389	63,369	65,349	67,329	69,309	71,289	73,269	75,249	77,229
<b>GS-14</b>	70,205	72,545	74,885	77,225	79,565	81,905	84,245	86,585	88,925	91,265
<b>GS-15</b>	82,580	85,333	88,086	90,839	93,592	96,345	99,098	101,851	104,604	107,357

2002 General Schedule (effective 1/1/2002)

Incorporating the 3.60% general schedule increase

Source: <http://www.opm.gov/oca/02tables/gs.htm>

# Compensation Values

## Federal Pay Schedule for Washington-Baltimore, DC-MD-VA-WV

Grade	Annual Rates for Steps (in dollars)									
	1	2	3	4	5	6	7	8	9	10
1	16,451	17,000	17,547	18,091	18,639	18,962	19,500	20,045	20,068	20,575
2	18,497	18,935	19,548	20,068	20,290	20,887	21,483	22,080	22,676	23,273
3	20,181	20,853	21,526	22,198	22,870	23,542	24,215	24,887	25,559	26,231
4	22,655	23,410	24,164	24,919	25,674	26,429	27,183	27,938	28,693	29,447
5	25,347	26,192	27,037	27,882	28,727	29,572	30,417	31,262	32,107	32,952
6	28,253	29,195	30,138	31,080	32,022	32,964	33,906	34,848	35,790	36,732
7	31,397	32,444	33,491	34,538	35,584	36,631	37,678	38,725	39,772	40,818
8	34,772	35,931	37,091	38,250	39,409	40,569	41,728	42,887	44,047	45,206
9	38,406	39,686	40,966	42,245	43,525	44,805	46,085	47,365	48,644	49,924
10	42,294	43,705	45,115	46,525	47,935	49,346	50,756	52,166	53,576	54,986
11	46,469	48,018	49,566	51,115	52,663	54,212	55,760	57,309	58,857	60,405
12	55,694	57,550	59,407	61,263	63,119	64,975	66,831	68,687	70,543	72,400
13	66,229	68,436	70,644	72,851	75,058	77,266	79,473	81,680	83,888	86,095
14	78,265	80,873	83,482	86,090	88,699	91,308	93,916	96,525	99,134	101,742
15	92,060	95,129	98,198	101,267	104,336	107,405	110,474	113,543	116,613	119,682

2002 General Schedule Locality Rates of Pay for Washington-Baltimore, DC-MD-VA-WV


Incorporating the 3.60% general schedule increase and a locality payment of 11.48%

<http://www.opm.gov/oca/02tables/dcb.htm>




# Compensation Values

## FAA Core Compensation (without Locality)

Pay Band 	A	B	C	D	E	F	G	H	I	J	K	L	M
<b>Minimum</b>	\$15,800	\$18,100	\$20,500	\$23,600	\$27,100	\$31,100	\$36,400	\$44,400	\$54,100	\$66,000	\$78,900	\$94,300	\$111,200
	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
<b>Maximum</b>	\$23,100	\$26,400	\$30,800	\$35,400	\$40,700	\$46,700	\$56,400	\$68,800	\$83,900	\$102,300	\$122,300	\$146,200	\$150,000
<i>Student</i>		Level 1	Level 2	Level 3									
		FG-1/2	FG-3/4	FG-5/7/9									
<i>Clerical Support</i>			Level 1	Level 2	Level 3								
			FG-1-4	FG-5/6	FG-7/8								
						Mgr. 1	Mgr. 2						
<i>Admin. Support</i>				Level 1	Level 2	Level 3							
				FG-3-6	FG-7/8	FG-9-10							
							Mgr. 1	Mgr. 2					
<i>Technical Support</i>					Level 1	Level 2	Level 3						
					FG-5/6	FG-7/8	FG-9/10/11						
								Mgr. 1	Mgr. 2				
<i>Paraprofessional</i>						Level 1	Level 2	Level 3					
						FG-7/8/9	FG-10/11	FG-12/13					
									Mgr. 1	Mgr. 2			
<i>Professional</i>									FG-13&below	FG-14&above			
						Level 1	Level 2	Level 3	Level 4	Level 5			
						FG-5/7/9	FG-11	FG-12	FG-13	FG-14/15			
<i>Technical</i>									Mgr. 1	Mgr. 2	Mgr. 3		
									FG13&below	FG-14	FG-15		
							Level 1	Level 2	Level 3	Level 4	Level 5		
							FG-5/7/9	FG-11/12	FG-13	FG-14	FG-15		
										Mgr. 1	Mgr.2	Mgr.3	
										FG-14&below	FG-15		

# Compensation Values

## FAA Core Compensation (Cont.)

Pay Band 	A	B	C	D	E	F	G	H	I	J	K	L	M
<b>Minimum</b>	\$15,800	\$18,100	\$20,500	\$23,600	\$27,100	\$31,100	\$36,400	\$44,400	\$54,100	\$66,000	\$78,900	\$94,300	\$111,200
	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼	▼
<b>Maximum</b>	\$23,100	\$26,400	\$30,800	\$35,400	\$40,700	\$46,700	\$56,400	\$68,800	\$83,900	\$102,300	\$122,300	\$146,200	\$150,000
<i>Engineering</i>							Level 1	Level 2	Level 3	Level 4	Level 5		
							FG-5/7/9	FG-11/12	FG-13	FG-14	FG-15		
										Mgr. 1	Mgr.2	Mgr.3	
										FG-14&below	FG-15		
<i>** Specialized 602 (Physician)</i>												Level 1 **	Level 2 **
												FG-13/14	FG-15
<i>Specialized 610 (Nurses), 603 (Phy. Asst.)</i>							Level 1	Level 2	Level 3	Level 4			
							FG-9&below	FG-10/12	FG-13	FG-14			
										Mgr. 1			
										FG-14&below			
<i>Specialized 802 (Eng. Tech.), 856 (Elec. Tech.), 2101(Trans. Spec.)</i>						Level 1	Level 2	Level 3	Level 4	Level 5			
						FG-9&below	FG-10/11	FG-12	FG-13	FG-14/15			
									Mgr. 1	Mgr. 2	Mgr. 3		
									FG-13&below	FG-14	FG-15		
<i>Specialized 905 (Attorney)</i>							Level 1	Level 2	Level 3	Level 4	Level 5		
							FG-11&below	FG-12	FG-13	FG-14	FG-15		
											Mgr. 1	Mgr. 2	Mgr. 3
											FG-15		
<i>Specialized 1815(Investigator), 1825 (ASI)</i>							Level 1	Level 2	Level 3	Level 4	Level 5		
							FG-9&below	FG-10/11/12	FG-13	FG-14	FG-15		
										Mgr. 1	Mgr. 2	Mgr. 3	
										FG-14&below	FG-15		
<i>Specialized 2152 (Air Traff. Cont.-except Flight Service)</i>							Level 1	Level 2	Level 3	Level 4	Level 5		
							FG-9&below	FG-10/12	FG-13	FG-14	FG-15		
										Mgr. 1	Mgr. 2	Mgr. 3	
										FG-14&below	FG-15		

Source: <http://www.faa.gov/corecomp>

Data Updated: 04/29/02

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# Compensation Values

## FAA Core Compensation (Cont.)

Pay Band →	A	B	C	D	E	F	G	H	I	J	K	L	M
Minimum	\$15,800	\$18,100	\$20,500	\$23,600	\$27,100	\$31,100	\$36,400	\$44,400	\$54,100	\$66,000	\$78,900	\$94,300	\$111,200
	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Maximum	\$23,100	\$26,400	\$30,800	\$35,400	\$40,700	\$46,700	\$56,400	\$68,800	\$83,900	\$102,300	\$122,300	\$146,200	\$150,000
<i>Specialized 2152 (Air Traff. Cont.-Flight Service field positions)</i>						Level 1	Level 2	Level 3					
						FG-9&below	FG-10/11	FG-12					
									Mgr. 1	Mgr. 2	Mgr. 3		
									FG-13&below	FG-14	FG-15		
<i>Specialized 2181(Pilot)</i>								Level 1	Level 2	Level 3	Level 4		
								FG-9/11/12	FG-13	FG-14	FG-15		
											Mgr. 1		
											FG-15		

Source: <http://www.faa.gov/corecomp>

# Compensation Values

## FAA Air Traffic Controller Compensation

### ATC Pay Bands, effective June 17, 2001

- exclusive of locality pay, reflecting an Organizational Success Increase of 0.8% -

Career Level and Code		ATC Level									
		3	4	5	6	7	8	9	10	11	12
<b>MSS4</b>	<b>xL</b>	49,197	52,517	59,606	65,866	72,780	80,424	88,866	102,197	107,561	112,941
		59,036	63,020	71,527	79,039	87,336	96,509	106,639	122,636	129,073	135,529
<b>MSS3</b>	<b>xK</b>	46,099	49,210	55,853	61,719	68,198	75,360	83,271	95,762	100,789	105,829
		57,624	61,513	69,816	77,149	85,248	94,200	104,089	119,703	125,986	132,286
<b>MSS2</b>	<b>xJ</b>	43,136	46,047	52,263	57,752	63,815	70,517	77,919	89,607	94,311	99,028
		56,077	59,861	67,942	75,078	82,960	91,672	101,295	116,489	122,604	128,736
<b>MSS1</b>	<b>xl</b>	37,581	40,117	45,532	50,314	55,596	61,435	67,884	78,067	82,165	86,274
		52,613	56,164	63,745	70,440	77,834	86,009	95,038	109,294	115,031	120,784
<b>CPC</b>	<b>xH</b>	37,581	40,117	45,532	50,314	55,596	61,435	67,884	78,067	82,165	86,274
		52,613	56,164	63,745	70,440	77,834	86,009	95,038	109,294	115,031	120,784
<b>D3</b>	<b>xG</b>	31,944	34,099	38,702	42,767	47,257	52,220	57,701	66,357	69,840	73,333
		44,722	47,739	54,183	59,874	66,160	73,108	80,781	92,900	97,776	102,666
<b>D2</b>	<b>xF</b>	26,307	28,082	31,872	35,220	38,917	43,005	47,519	54,647	57,516	60,392
		36,830	39,315	44,621	49,308	54,484	60,207	66,527	76,506	80,522	84,549
<b>D1</b>	<b>xD</b>	20,670	22,064	25,043	27,673	30,578	33,789	37,336	42,937	45,191	47,451
		28,938	30,890	35,060	38,742	42,809	47,305	52,270	60,112	63,267	66,431

Source: <http://atpay.faa.gov/>  
(select "documents", "view",  
Relevant ATC pay band)  
As of 6/2001

Facility FPL  
Level FG/GS  
9  
10  
11  
12  
13  
14

Equivalent  
ATC Level  
1  
3  
5  
7  
9  
11

FPL: Full Performance Level  
FG: Federal Grade  
GS: General Schedule

MSS4 - MSS1: Managers, Supervisors, Staff  
CPC: Certified Professional Controller  
D3 - D1: Developmental Controller  
AG: Academy Graduate  
NB: CTI Employees  
NA: New Hires

# Compensation Values

## Contractor Salaries

Contractor Salary Ranges			
Annual Salaries are in thousands of dollars			
Labor Categories	Low Salaries	Median Salaries	High Salaries
Project Directors	\$173.2	\$205	\$212.3
Technical Managers/Task Leaders	\$35	\$55.9	\$94.7
Facility Managers	\$24.1	\$44.5	\$89.9
Financial Managers	\$27.7	\$55	\$119
Computer Information Managers	\$44.6	\$75.3	\$120
Civil Engineers	\$34.3	\$53.5	\$87.4
General Engineers	\$36	\$61.7	\$92.3
Electrical Engineers	\$38.5	\$62.3	\$91.5
Electricians	\$21	\$35.3	\$64.5
Electrical Technicians	\$21.7	\$36	\$62.5
Electrical Assemblers	\$12.9	\$18.8	\$28.3
Electrical Equipment Assemblers	\$14.1	\$21.7	\$34.4
Electrical Equipment Repairers	\$18.5	\$34	\$48.8
Electrical Power-Line Repairers	\$24	\$42.6	\$69.3
Air Traffic Controllers	\$36.6	\$64.8	\$87.2
Database Administrators	\$28.3	\$48	\$86.2
Computer Operators	\$16.3	\$25	\$39.1
Computer Support Specialists	\$22.9	\$37.1	\$73.8
Computer Scientists	\$26.7	\$46.7	\$87.7
Computer Programmers	\$30.5	\$50	\$89.9
Computer Engineers	\$37.2	\$61.9	\$92.9
Cost Estimators	\$24.3	\$40.6	\$79.4
Systems Analysts	\$32.5	\$52.2	\$87.8
Financial Analysts	\$27.1	\$46.7	\$109.6
Budget Analysts	\$30	\$45	\$81
Research Analysts	\$29.8	\$49	\$87.7
Management Analysts	\$31.8	\$49.5	\$88.5

Salaries vary substantially by type and level of responsibilities, experience and education levels.

The following companies offer Labor Data (Compensation Survey):

Mercer

Hewitt

Radford

SIRS

Executive Alliance

Systems Integration (SI)

Sources: Bureau of Labor & Statistics, General Services Administration

<http://stats.bls.gov/oco>

Low - High Salaries valid as of July 2001, next update July 2002

# Inflation Rates

COMPOUND FACTORS FROM BASE TO FUTURE YEAR END																
Future Year End	Inflation Pct.	Inflation Factor	BASE YEAR OF DOLLARS													
			2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989
1988	3.4%	1.034														
1989	3.8%	1.038														1.000
1990	3.9%	1.039													1.000	1.039
1991	3.6%	1.036												1.000	1.036	1.077
1992	2.4%	1.024											1.000	1.024	1.061	1.103
1993	2.4%	1.024										1.000	1.024	1.049	1.087	1.129
1994	2.1%	1.021									1.000	1.021	1.045	1.071	1.110	1.153
1995	2.2%	1.022								1.000	1.022	1.043	1.068	1.094	1.134	1.178
1996	1.9%	1.019							1.000	1.019	1.042	1.063	1.089	1.115	1.156	1.201
1997	2.0%	1.020						1.000	1.020	1.039	1.062	1.084	1.110	1.137	1.178	1.224
1998	1.2%	1.012					1.000	1.012	1.032	1.052	1.075	1.097	1.124	1.151	1.193	1.239
1999	1.4%	1.014				1.000	1.014	1.026	1.046	1.067	1.090	1.113	1.139	1.167	1.209	1.257
2000	2.3%	1.023			1.000	1.023	1.037	1.050	1.070	1.091	1.115	1.138	1.165	1.194	1.237	1.285
2001	2.3%	1.023		1.000	1.023	1.047	1.061	1.074	1.095	1.116	1.141	1.164	1.192	1.221	1.266	1.315
2002	2.2%	1.022	1.000	1.022	1.046	1.070	1.085	1.098	1.119	1.141	1.166	1.190	1.219	1.248	1.294	1.344
2003	2.2%	1.022	1.022	1.044	1.069	1.093	1.108	1.122	1.144	1.166	1.192	1.216	1.245	1.276	1.322	1.374
2004	2.1%	1.021	1.043	1.066	1.091	1.116	1.132	1.146	1.168	1.191	1.217	1.242	1.272	1.303	1.350	1.402
2005	2.1%	1.021	1.065	1.089	1.114	1.140	1.156	1.170	1.193	1.216	1.242	1.268	1.298	1.330	1.378	1.432
2006	2.1%	1.021	1.088	1.112	1.138	1.164	1.180	1.194	1.218	1.241	1.268	1.295	1.326	1.358	1.407	1.462
2007	2.1%	1.021	1.111	1.135	1.161	1.188	1.205	1.219	1.243	1.267	1.295	1.322	1.353	1.386	1.437	1.493
2008	2.1%	1.021	1.134	1.159	1.186	1.213	1.230	1.245	1.269	1.294	1.322	1.349	1.382	1.415	1.467	1.524
2009	2.1%	1.021	1.158	1.183	1.211	1.238	1.256	1.271	1.296	1.321	1.350	1.378	1.411	1.445	1.498	1.556
2010	2.1%	1.021	1.182	1.208	1.236	1.264	1.282	1.298	1.323	1.349	1.378	1.407	1.441	1.476	1.529	1.589
2011	2.1%	1.021	1.207	1.233	1.262	1.291	1.309	1.325	1.351	1.377	1.407	1.436	1.471	1.507	1.561	1.622
2012	2.1%	1.021	1.232	1.259	1.289	1.318	1.336	1.353	1.379	1.406	1.437	1.466	1.502	1.538	1.594	1.656
2013	2.1%	1.021	1.258	1.286	1.316	1.346	1.365	1.381	1.408	1.435	1.467	1.497	1.533	1.570	1.627	1.691
2014	2.1%	1.021	1.284	1.313	1.343	1.374	1.393	1.410	1.438	1.466	1.498	1.529	1.565	1.603	1.662	1.726
2015	2.1%	1.021	1.311	1.340	1.372	1.403	1.422	1.440	1.468	1.496	1.529	1.561	1.598	1.637	1.697	1.763
2016	2.1%	1.021	1.339	1.368	1.400	1.432	1.452	1.470	1.499	1.528	1.561	1.594	1.632	1.671	1.732	1.800

Historical Source: <http://www.bea.doc.gov/bea/dn/nipaweb/SelectedTables.asp?Selected=Y> (select "Table 7.1. Quantity and Price Indexes for GDP")  
 Projection Source (2001-2016): OMB's GDP price Index from "FY2002 Budget Mid Session Review"

Data Updated: 04/29/02

# Discount Rates

## Discount Rates for CBA

OMB direction is to use 7% real discount rate for Benefit-Cost Analyses. There is an exception in three specific cases: asset sales, lease versus purchase decisions, and cost effectiveness analysis. In this case use the rates below.

## Discount Rates for Cost Effectiveness, Lease-Purchase and Related Analyses <sup>1</sup>

### Nominal Interest Rates on Treasury Notes and Bonds of Specified Maturities (in percent)

3-Year	5-Year	7-Year	10-Year	30-Year
4.1	4.5	4.8	5.1	5.8

### Real Interest Rates on Treasury Notes and Bonds of Specified Maturities (in percent)

3-Year	5-Year	7-Year	10-Year	30-Year
2.1	2.8	3.0	3.1	3.9

<sup>1</sup> OMB Circular A-94 (Appendix C, revised as of 2/2002)